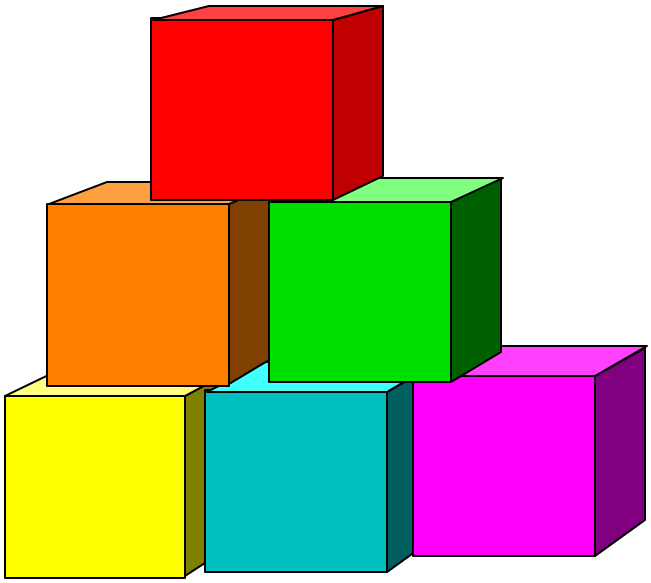
Chronic Disease Care Management

The Building Blocks for Improving Chronic Disease Health Care



Disease management can improve patient outcomes and quality of life while potentially reducing overall costs.

Chronic Disease Care Management

The Building Blocks to Improving Chronic Disease Health Care

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Executive Summary

An increasing number of individuals are living with one or more chronic conditions as the population ages. Missouri along with many other states is being challenged to provide appropriate health care and related social services to these individuals. The most promising population-based approach being adopted by states is disease management programs that are designed to contain costs by improving health among the chronically ill.

The impetus for initiating a chronic disease care management initiative in Missouri stemmed from a national Policy Academy on Chronic Disease Prevention and Management held in August 2002. The Policy Academy was sponsored by the National Governor's Association (NGA) and the Centers for Disease Control and Prevention (CDC) in collaboration with the Association of State and Territorial Health Officials and the National Conference of State Legislatures. Through a competitive process, Missouri's application was selected for its team to participate.

Missouri's Academy team assembled representation from the Governor's Office, General Assembly, Missouri Department of Health and Senior Services (DHSS), Missouri Department of Social Services - Medicaid, American Cancer Society (ACS) and American Lung Association (ALA). The overall goal of the Academy was for each state to develop and implement an action plan to improve chronic disease prevention and management within their state.

The Academy outlined some new and innovative approaches to reducing chronic diseases many of which were incorporated into Missouri's Action Plan *Chronic Disease Prevention and Management: Moving Upstream.*[1] That plan outlines many of the key strategies in the public health policy arena for reducing chronic diseases in Missouri. It further details priority actions to achieve results. Related to one of the priority actions and the focus of this plan is promoting the integration of chronic disease care management into Missouri's health care delivery system.

Although chronic disease care management is gaining attention nationwide, the concept was introduced in 1996 by Catherine Hoffman Sc.D., and Dorothy Rice, Sc.D., in their publication *Chronic Care in America: A 21st Century Challenge.*[2] The challenge issued was how to provide appropriate health care for people with chronic conditions. They encouraged policymakers, providers and the public to view health care from a new perspective—the chronic care perspective, with a special emphasis on community caregiving models.[3]

Since then, many others have expounded on the concept with a model developed and the critical components of the approach being defined. Results from the early adopters of this approach have shown that chronic disease care management can:[4-7]

- √ Improve patient health outcomes.
- √ Limit health care spending by identifying and monitoring high-risk populations.
- √ Help patients and providers better adhere to proven interventions.
- √ Engage patients in their own care.
- √ Enhance coordination of care interventions and follow-up to prevent unnecessary health complications.
- √ Link and use community-based supports for individuals with chronic diseases.

Care coordination is an extremely critical component for chronically ill patients receiving care from multiple providers in different settings.[4, 8] Important components of care coordination include identifying the priority population with two or more chronic conditions and those individuals with the greatest utilization of services to enroll in the program. By selecting the population utilizing the greatest amount of services for chronic disease care management and coordination, there is the potential for reaping the greatest benefits and cost-savings.

Missouri's Initiative

The Team

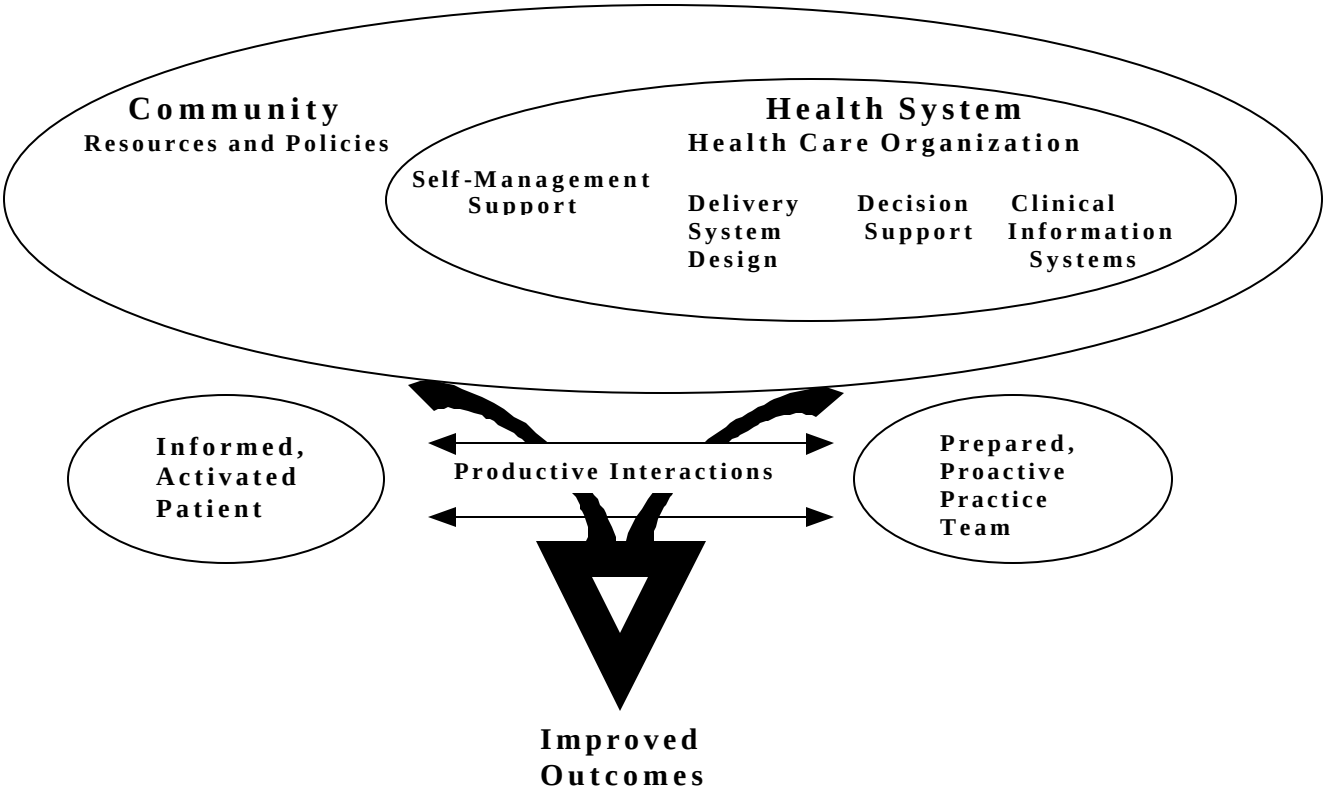
The Missouri Department of Health and Senior Services (DHSS) has convened a state level team with representation from chronic disease and health care experts, Missouri Departments of Insurance and Social Services-Medicaid program, Missouri SenioRx program, Missouri Hospital Association, Missouri Patient Care Review Foundation and the St. Louis Diabetes Coalition to plan and launch a statewide chronic disease care management initiative in Missouri. A wide range of partners have been invited and additional representatives will be invited to join the team in the planning process to design, implement and evaluate the most feasible, efficient and effective chronic disease care management initiative as possible.

The Mission

The mission of the chronic disease care management team is to develop and increase adoption of a patient-focused chronic care approach for Missouri's health care system to positively impact patients with chronic diseases and their providers.

The Model

The Chronic Care Model was developed by Edward Wagner, M.D., M.P.H., Director of the MacColl Institute for Healthcare Innovation at the Group Health Cooperative of Puget Sound in Seattle, Washington and colleagues with support from the Robert Wood Johnson Foundation.[9-11] The model was developed to improve care for people with chronic conditions and will serve as the framework for Missouri's chronic disease care management initiative and was used to develop a logic model to guide the Missouri initiative (see Attachment).



Chronic Diseases in Missouri

Chronic diseases are a major health issue in Missouri with five chronic diseases (i.e., heart disease, cancer, stroke, chronic lower respiratory diseases and diabetes) accounting for 7 of every 10 deaths annually. Although many of these deaths occur prematurely and are tragic, more and more people in Missouri are living with chronic illnesses. These chronic conditions take an enormous toll on the productivity and economic stability of individuals and families.

Taking a closer look at the chronic conditions affecting Missourians—these are the facts[12-16]:

Diseases of the Heart

- Heart disease is the number one cause of death in Missouri representing 30% of all deaths in 2001.
- The trend in the age-adjusted death rate in Missouri from heart disease has improved significantly from 1984 to 2001 (368.9 versus 272.6 per 100,000 people, respectively); however, Missouri's rate remains higher than the United States preliminary 2001 mortality rate of 247.7.
- Diseases of the heart include a number of heart and blood vessel diseases but the largest contributor is ischemic or coronary heart disease which accounts for 70% of these deaths.
- The major risk factors for coronary heart disease are high blood pressure (140/90 or greater), elevated blood cholesterol (at 240 mg/dl risk doubles), cigarette smoking (70% higher death rate than nonsmokers) and physical inactivity (almost a 2-fold increase for sedentary lifestyle).

Cancer

- All cancers combined are the second leading cause of death in Missouri and represented almost 23% of all deaths in 2001.
- Missouri's age-adjusted mortality trend for all cancers combined has not significantly changed from 1984 through 2001; however Missouri's 2001 death rate continues to be higher than the preliminary rate for the nation (206.5 versus 195.8 per 100,000 people respectively).
- Lung cancer is the leading cause of cancer deaths for both men and women in the state with an overall age-adjusted rate of 62.4 per 100,000 people in 2001.
- Cigarette smoking is the strongest risk factor for lung cancer.
- Breast cancer is the second leading cause of cancer death in Missouri women while prostate cancer is the second leading cause of cancer death in Missouri men.
- Colorectal cancers are the third leading cause of cancer deaths in both men and women and may be most amenable to nutritional interventions.
- Skin cancer through sunburn prevention and cervical cancer through early detection and prompt treatment are the most avoidable.

Stroke or Cerebrovascular Disease

- Stroke is the third leading cause of death and a major contributor to disabilities in Missouri.
- Deaths from stroke have significantly declined from 1984 to 2001 (81.6 versus 62.5 per 100,000 people, respectively).
- Hypertension is the strongest risk factor for all types of stroke and reducing elevated blood pressure may decrease fatal and non-fatal strokes by as much as 50%.

Chronic Lower Respiratory Diseases

- Chronic lower lung conditions are the fourth leading cause of death in Missouri and represents a group of diseases including chronic bronchitis, emphysema, asthma and chronic airway obstruction.
- Most people are unable to work after an average of 8 years following this diagnosis.
- The age-adjusted mortality trend has increased from 1984 to 2001 (35.3 versus 47.7 per 100,000 people, respectively) and is expected to continue to increase, particularly among women.
- Risk factors for these diseases are cigarette smoking, exposure to secondhand tobacco smoke, air pollution and occupational dust/chemicals.

Chronic Diseases in Missouri

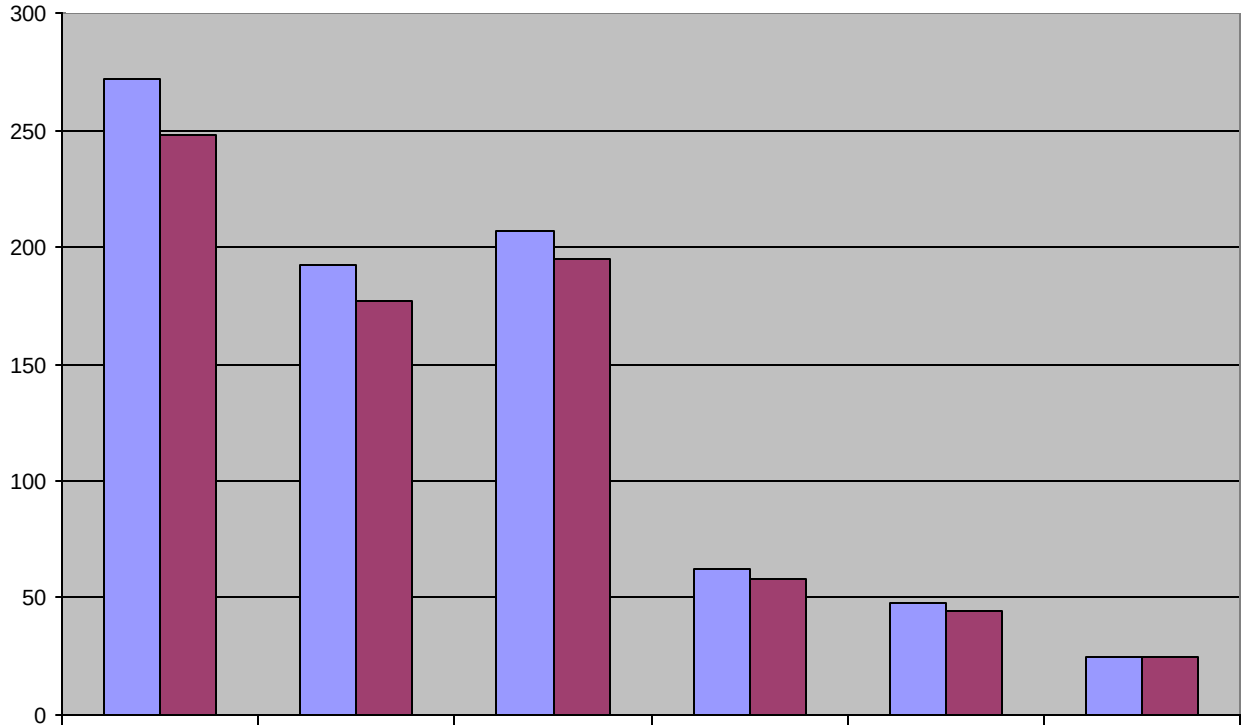
Diabetes Mellitus

- Diabetes is the seventh leading cause of death in Missouri and has severe secondary complications if untreated.
- Deaths from diabetes have significantly increased from 1984 to 2001 (14.8 versus 25.4 per 100,000 people, respectively).
- A healthy diet, maintaining a normal weight and physical activity may offer the best in preventing diabetes.
- However, once diabetes has developed, tight blood sugar level control is paramount to preventing secondary complications.

Other Chronic Diseases

- Other chronic conditions such as arthritis, osteoporosis and lupus are characterized by persistent recurring health problems that result in years of illness, lost productivity and secondary complications.
- It is estimated that almost 1.5 million adults in Missouri have some form of arthritis and about 66% are not receiving treatment for their arthritis resulting in a leading cause of disability in the state.

Missouri Compared to the United States in Age-Adjusted Death Rates for the Leading Chronic Diseases, 2001



	Heart Disease	Coronary HD	Cancer	Stroke	Chronic Lung	Diabetes
Missouri	272.6	193.0	206.5	62.5	47.7	25.4
United States	247.7	177.6	195.8	57.9	44.0	25.2

Preliminary rates for the U.S.

Age-adjusted rates per 100,000 U.S. standard population.

Sources: DHSS. (2003). *Missouri vital statistics –2001 and Missouri Information for Community Assessment—Deaths 1990-2001*. [On-line]. Available: www.dhss.state.mo.us/; CDC, National Center for Health Statistics. (2003). *Deaths: Preliminary data for 2001*. National Vital statistics report, 51(5).

Healthy Adults - *Chronic Disease Care Management*

Success Indicators:

- Number of organizations participating in Missouri's Chronic Disease Care Management (CCM) initiative
- Percent of invited health care systems that participate in the chronic disease care management conference
- Percent of health care providers that report adopting two or more of the six primary disease managemnt components into their health care practice

What are the trends?

In the mid-1990's, the realization began that a different approach to chronic care was needed to not only contain health care costs, but to improve coordination of care and outcomes. What began in a handful of states (i.e., Florida, Maryland, Mississippi, North Carolina, Texas, Utah and Virginia) is now emerging into the mainstream of health care delivery systems with more than 20 states engaged in developing and implementing disease management programs.[4-5, 17-18] Although these programs have primarily been implemented with Medicaid populations, the value to the general population has just begun to be realized.

Missouri, like many other states, is just beginning to join this emerging trend of integrating the chronic disease care management approach into some health systems including the Medicaid fee-for-service program, the federally qualified health centers (FQHCs) and a few hospital systems. Examples of these efforts include:

- The Missouri Medicaid Disease Management Program, which began in November 2002, utilizes physician-pharmacist teams chosen geographically to match the location of the providers with patient locations. Each patient enrolled in the program will receive an initial assessment, an individualized patient care plan using standard clinical guidelines and patient education focusing on prevention and self-management.

- Disease management in the Missouri FQHCs, as part of the Health Disparities Collaborative, have focused in the areas of diabetes, cardiovascular disease, asthma and arthritis management. The Diabetes Collaborative has been the longest in existence and has the most data available. From June 2000 to February 2001, preliminary results from the initial six Missouri FQHCs indicated that the centers had improved 11 of the 13 diabetes-related care measures, such as:
  - √ The prevalence of HbA_{1c} (i.e., glycosylated hemoglobin which reflects mean blood glucose over the preceding 2-3 months) testing at least three months apart increased by 11%.
  - √ Referrals and receipt of dilated eye examinations increased by 48%.
  - √ Annual foot examinations increased by 25%.
  - √ Receipt of flu vaccinations increased by 62%.
  - √ The setting of self-management goals increased by 24%.

- The Missouri Arthritis and Osteoporosis Program was one of two states' programs awarded a grant from CDC to pilot an arthritis collaborative to develop primary care-based quality improvement activities for arthritis care. Four primary care physician teams were recruited for the project. Although clinical outcome data is not yet available, early successes include the enhanced care that patients received when one physician team converted to group visits and all four teams increased referrals to community resources, physical activity and self-management programs.

How does Missouri compare to others?

Although it is too soon to see the long-term health and economic outcomes from disease management in Missouri, specific research projects are showing positive results such as:

- In a Washington University School of Medicine study of health care costs over 3 months for congestive heart failure in patients under a care management program versus usual care, it was found that although the intervention costs more than the usual care, the intervention patients showed a decline in readmissions and total health care costs.[19]

We have every reason to believe that as chronic disease care management is adopted into more and more health care systems in Missouri, the results will be comparable to achievements in other states and national programs.

Interventions that work:

Chronic Disease Care Management

Chronic disease care management improves chronic illness outcomes by emphasizing the patient's role in self-management and anticipating and providing care on a continuous basis that is customized to the patient's needs and values. Under the CCM approach, practice teams are prepared with the patient's information, care guidelines and other resources at the time of the planned visit; cooperation among the many providers for the multitude of treatments needed is enhanced; and follow-up and self-care is sustained and augmented with community referrals and services.

Disease management programs vary in design and utilize disease-specific standards of care in individualizing care plans but there are six key system components that should be incorporated in all programs and include:[9-11]

- **Self-management** that comprises activities to increase patient knowledge, skills and confidence to become engaged in their own care with the provider to define problems, set priorities, establish goals, create treatment plans and solve problems.
- **Decision support** by increasing adherence to care guidelines and incorporating care standards into daily clinical practice as well as affiliating and dialoging with other providers to solve patient problems.
- **Clinical information system** or a manual or automated patient registry to measure the programs effectiveness, generate care reminders, facilitate care planning and provide feedback to providers and patients.
- **Delivery system design** that incorporates development of the multidisciplinary care team, defines roles and delegates tasks for team members including follow-up and use of a patient registry to review care and plan visits—both in individual and group settings.
- **Health Care Organization** where improving chronic care is a part of the organization's mission, goals and business plan; senior leaders provide visible support by removing barriers and providing necessary resources to improve disease management efforts; and quality improvement activities are an intricate part of the care delivery system.
- **Community resources and policies** to identify and link health care systems with effective community programs and resources and encourage patients to participate in community education classes, support groups and reinforce self-care practices. Other community linkages may be to defray medication costs, case management, in-home assistance, nutritional services and transportation.

Although chronic disease care management has primarily been used for adult patients, it is projected that this approach to care for pediatric populations could be equally if not more effective in producing desired outcomes.[20] This reasoning is based on the fact that a majority of children in the United States have a single or at most two chronic conditions. Therefore, the potential for co-morbidities is drastically reduced and beginning early with self-management and preventive care will substantially improve outcomes and reduce disease-related complications.

DHSS Strategies for Supporting the Intervention

1. Establish and coordinate a team of staff and partners from other agencies, organizations, associations, coalitions, health care system representatives and others to develop, promote and increase adoption of a patient-focused chronic disease care management approach by health care delivery systems in Missouri.

2. Conduct a conference to promote the CCM approach to health care systems and community partners.

3. Assess the capacity and needs of health care settings to incorporate the six components of disease management into practice and provide information and technical assistance to support these efforts.

4. Identify and link health care systems and community resources to improve the care and self-management of individuals with chronic diseases.

5. Develop an evaluation plan with short, intermediate and long-term indicators to determine the effectiveness of the CCM approach among Missouri population groups receiving this care.

Healthy Adults - *Chronic Disease Care Management*

Interventions that work:

Evidence from other states and the national collaboratives clearly indicates the effectiveness of chronic disease care management.[4,17-18, 21-22] For example,

- Florida's Medicaid asthma disease management program showed that for program participants the average asthma-related inpatient hospital costs declined by $70.86 per month (from $545.92 to $484.40); average asthma-related outpatient costs declined by $38.06 per month (from $79.40 to $39.41); prescription drug costs increased by $158.84; and total Medicaid expenditures for program participants decreased by 33% or $3,524.90.

- The National Diabetes Collaborative that included 23 participating health centers serving 8,030 patients found a reduction in the average HbA_{1c} levels from greater than 9.0 (March 1999) to almost 8.0 (July 2001). A 1% reduction in HbA_{1c} levels translates into annual cost savings ranging from $685 to $950 per patient.

- The Virginia Health Outcomes Partnership asthma disease management program found that emergency room visits per 1,000 patients declined by 41% over a six-month period among patients treated by disease management trained physicians versus an 18% decline for patients treated by physicians not trained in disease management. It was also found that dispensing of recommended drugs increased by as much as 25% and there was an estimated $3 in savings for every $1 spent.

Considerations for Improving Effectiveness

There are several factors to consider for increasing the effectiveness of chronic disease care management programs based on the experiences of states that have been operating these programs for a number of years.[4, 17-18] These considerations include:

Priority Population

Criteria typically used for selecting the priority population are:

- There are a large number of enrollees with the disease, and /or the costs of treating the disease are high.
- Acute events, such as emergency room visits, are frequently associated with the disease and are preventable.
- There are care guidelines for the disease.

Enrollment

- To increase program participation, automatic enrollment is recommended with a 30-day opt out period.
- Accurate risk assessments should be used to target resources most effectively instead of identifying high-risk groups based on charges incurred in the prior year which often leads to inaccurate predictions.

Outreach

- Dedicate staff to locate individuals that are eligible for the disease management program, particularly if the priority population is highly mobile and/or contact information tends to be inaccurate or incomplete. Although having outreach staff will increase the administrative costs and reduce program savings, it may still be possible to show some savings by preventing costly complications.

Comprehensive Services

- States have found that the more resources they invest in provider education and patient case management, the more savings they generate.

Multiple Regions

- To reduce silos of care and added administrative complexity, it is recommended that the number of regions a state is divided into for implementing disease management programs be kept to a minimum.

Savings

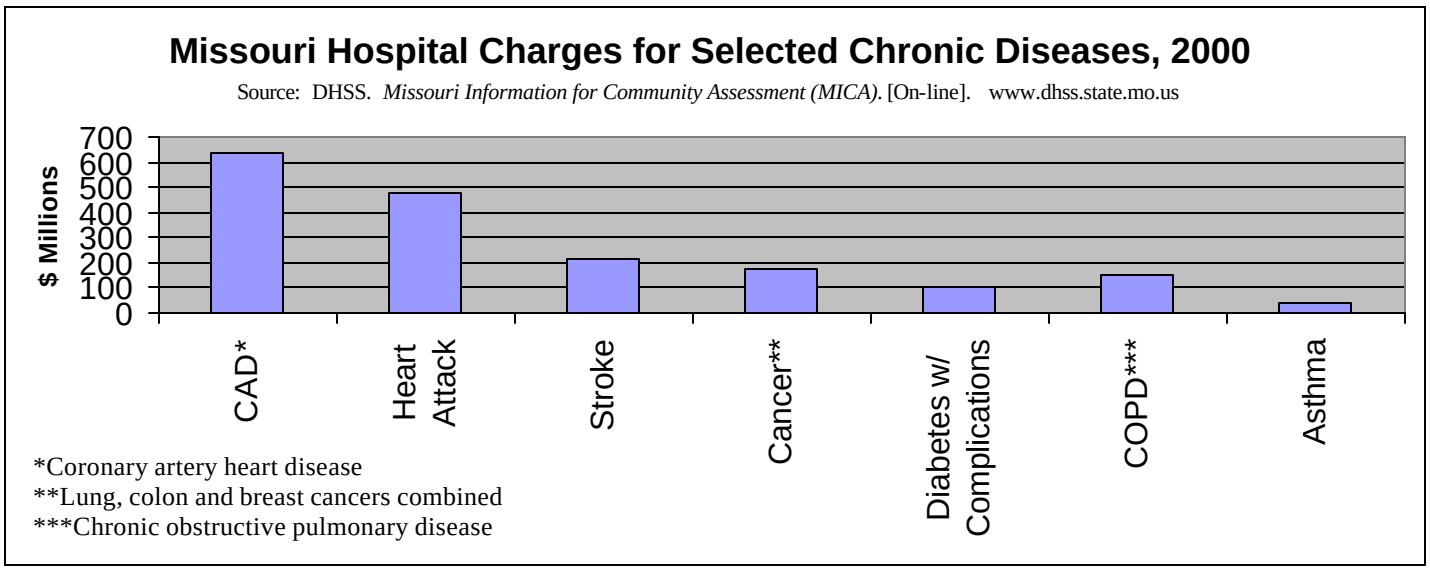
- Some programs place contractors at-risk for guaranteed savings, often between 5% to 6.5%. These guaranteed savings figures are based on expenditures for all enrollees with a particular disease.
- There is a significant lag time between interventions aimed at chronic illnesses and the associated savings. Therefore, it may be a few years before the programs really save money.
- It is important to take a wide approach to evaluating savings because the savings may be spread across several state agencies.

Evaluation

- Using a comparison group from the same year (rather than a prior year) may be the more accurate way to evaluate disease management programs.

Conclusion

Chronic diseases in Missouri are inflicting an enormous debt on society. As shown in the graph below, in 2000 the selected chronic diseases combined accounted for over $1.7 trillion in hospital charges. Although all of these conditions are amenable to primary, secondary or tertiary preventive measures and Missouri's health care system is already in transition, a more comprehensive and coordinated approach is needed to successfully care and improve outcomes for patients with chronic illnesses in this state. The chronic disease care management framework may provide the glue that is needed to link health and community systems and resources to better meet the needs of the chronically ill and over time begin to curb these escalating costs.



References

1. DHSS. (2003). *Missouri action plan. Chronic disease prevention and management: Moving upstream.* Jefferson City, MO: CDPHP.
2. Hoffman, C., & Rice, D.P. (1996). *Chronic care in America: A 21st century challenge.*
3. Anderson, G., & Horvath, J. (2002). *Chronic conditions: Making the case for ongoing care.* Baltimore, MD: Johns Hopkins University.
4. NGA Center for Best Practices. (2003). *Disease management: The new tool for cost containment and quality care.* Washington, DC: Health Policy Studies Division.
5. Matthews, T., & The Council of State Governments. (2002). *Health: Disease management offers hope to trim Medicaid costs.* State Government News.
6. The National Pharmaceutical Council, Inc. (2002). *Disease management: Balancing cost and quality (congestive heart failure).* Monograph 3. Reston, VA.
7. The National Pharmaceutical Council, Inc. (2002). *Disease management: Balancing cost and quality (asthma).* Monograph 5. Reston, VA.
8. Feezor, A. (2002, August). *Care management: Getting more miles to the gallon?.* Paper presented at the NGA Policy Academy on Chronic Disease Prevention and Management, San Francisco, CA.
9. Wagner, E. (2002, August). *Closing the quality chasm for the chronically ill.* Paper presented at the NGA Policy Academy on Chronic Disease Prevention and Management, San Francisco, CA.
10. Robert Wood Johnson Foundation. (2003). *Improving chronic illness care.* [On-line]. Available: www.improvingchroniccare.org
11. Bureau of Primary. (2003). *Changing practice, changing lives: The health disparities collaboratives.* [On-line]. Available: www.healthdisparities.net or www.ihi.org
12. DHSS. (2003).. *Missouri vital statistics –2001 and Missouri Information for Community Assessment—Deaths 1990-2001.* [On-line]. Available: www.dhss.state.mo.us
13. CDC, National Center for Health Statistics. (2003). *Deaths: Preliminary data for 2001..* National Vital statistics report, 51(5).
14. DHSS. (2003). *Chronic disease prevention performance measures report.* Jefferson City, MO: CDPHP.
15. Brownson, R.C., Remington, P.L., & Davis, J.R. (1993). *Chronic disease epidemiology and control.* Washington, DC: American Public Health Assoc.
16. DHSS. (1999, 2000 & 2001). *Behavioral risk factor surveillance system.* Jefferson City, MO; CDPHP.

References (cont.).

17. Wheatley, B. (2002). *Disease Management: Findings from leading state programs.* Issue Brief, III(3). Washington, DC: AcademyHealth, State Coverage Initiatives.
18. Wheatley, B. (2001). *Medicaid Disease Management: Seeking to reduce spending by promoting health.* Issue Brief. Washington, DC: Academy for Health Services Research and Health Policy, State Coverage Initiatives.
19. Rich, M.W., & Nease, R.F. (1999). *Cost-effectiveness analysis in clinical practice.* Archives of Internal Medicine, 159(15), 1690-1700.
20. Anderson, G. (2003, April). *States confront multiple chronic conditions.* Paper presented at the Council of State Governments' State Official's Summit on Chronic Illness & Disease Management, Washington, DC.
21. Pfizer, Inc. (2002, December). *Florida: A healthy state. A Florida first health care initiative.* Tallahassee, FL.
22. Virginia Health Outcomes Partnership. (2002). *Medicaid outcomes program reduces asthma emergency services.* Richmond, VA: Grant House.

Notes

"Never doubt that a small group of thoughtful citizens can change the world. Indeed, it's the only thing that ever has."

—Margaret Mead

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Attachment—Missouri's Chronic Disease Care Management Initiative Logic Model

Strategies	Short-term Outcomes	Intermediate Outcomes	Long-term Outcomes
(1) Increase communication of CCM approach to the health care system and community partners. • Define CCM approach and define components of CC model • Identify key channels of communication to deliver information and technical assistance • Develop tools to market message at local level	• Increased awareness of CCM model • Increased commitment to CCM model and approach	• Increased adoption of CCM system in health care settings in Missouri	• Increased use of multidisciplinary teams to provide care for chronic illnesses • Self-sustained programs and partnerships • Increased access to and continuity of care for patients with chronic illnesses • Improved clinical practices
(2) Increase CCM capacity among health care providers. • Build infrastructure for chronic care management • Assess knowledge/needs and expectations of health care providers o Be inclusive—cast wide net for participation in the CCM initiative • Provide assistance to meet those needs—training o Technical assistance teams to support community/regional efforts o Make tools and resources available to health care settings • Conduct a consensus building conference o Highlight what is going on o Obtain buy-in of key leadership o Engage community	• Increased consensus among health care providers on standards of care and guidelines • Improved services (more comprehensive, missing services added) • Increased availability of tools for self-management	• Increased use of Chronic Care Model in health care delivery systems in Missouri • Increased delivery of preventive services to reduce complications related to chronic diseases.	• Improved management of chronic conditions • Improved patient outcomes • Decreased morbidity and mortality associated with chronic diseases • Increased shifts (and potential savings) in health care costs from acute-episodic (e.g., ER visits) and long-term care to planned-preventive care (e.g., scheduled appointments, alignment with care guidelines, documented counseling, care plans, preventive services etc.)
(3) Increase linkages for CCM between the health care system and community supports and resources. • Conduct inventory of community based supports	• Increased linkages with businesses • Increased community collaboratives established to support better management of chronic diseases	• Improved linkages between health care settings and other community based settings that support needs of residents with chronic diseases. • Increased community based supports for lifestyle changes	• Decreased risk factor prevalence